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~~WATER SUPPLY OUTLOOK~~ CURRENT SERIAL RECORDS
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEY
for
COLORADO and NEW MEXICO

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE
and

COLORADO STATE UNIVERSITY
STATE ENGINEER of COLORADO
and STATE ENGINEER of NEW MEXICO

Data included in this report were obtained by the agencies
named above in cooperation with the Bureau of Reclamation,
U.S. Forest Service, National Park Service and other Federal,
State, and private organizations.

AS OF APR 1 - 1964

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND WATER SUPPLY FORECASTS

for

COLORADO RIVER, PLATTE RIVER
ARKANSAS RIVER AND RIO GRANDE
DRAINAGE BASINS

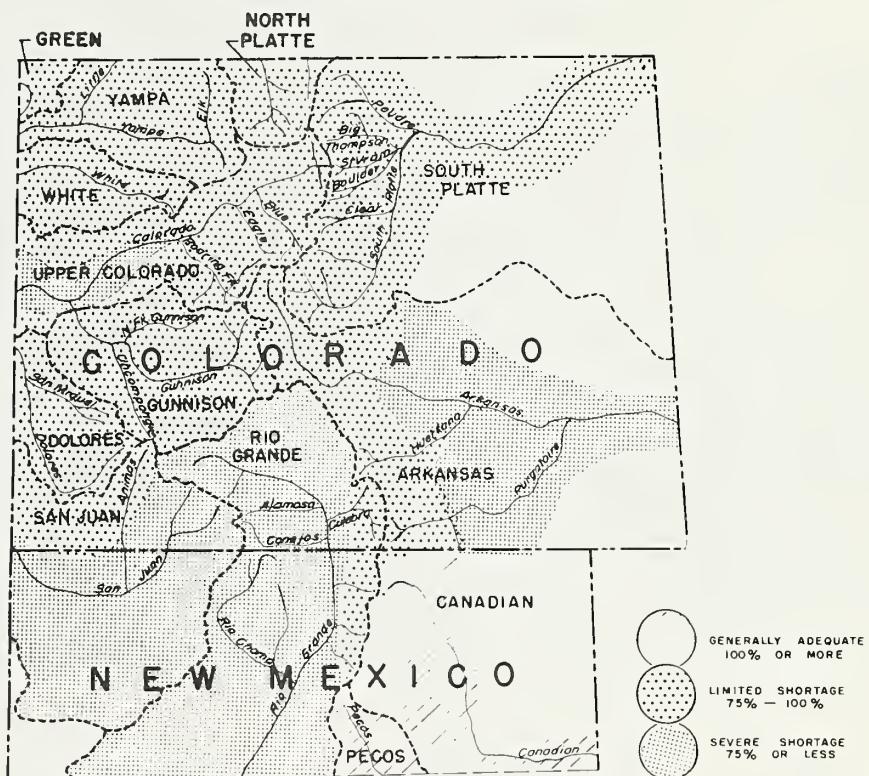
Issued
April 1, 1964

Report Prepared By
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Fort Collins, Colorado

United States Department of Agriculture
Soil Conservation Service
and
Colorado Agricultural Experiment Station
Fort Collins, Colorado

State Engineer of Colorado
Denver, Colorado
and
State Engineer of New Mexico
Santa Fe, New Mexico

WATER SUPPLY OUTLOOK



General Series Paper No. 780
Colorado Agricultural Experiment Station

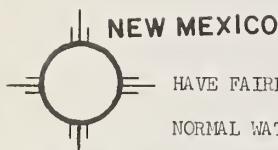
THE MAP ON THIS PAGE INDICATES THE MOST PROBABLE WATER SUPPLY AS OF THE DATE OF THIS REPORT. ESTIMATES ASSUME AVERAGE CONDITIONS OF SNOW FALL, PRECIPITATION AND OTHER FACTORS FROM THIS DATE TO THE END OF THE FORECAST PERIOD. AS THE SEASON PROGRESSES ACCURACY OF ESTIMATES IMPROVE. IN ADDITION TO EXPECTED STREAM-FLOW, RESERVOIR STORAGE, SOIL MOISTURE IN IRRIGATED AREAS, AND OTHER FACTORS ARE CONSIDERED IN ESTIMATING WATER SUPPLY. ESTIMATES APPLY TO IRRIGATED AREAS ALONG THE MAIN STREAMS AND MAY NOT INDICATE CONDITIONS ON SMALL TRIBUTARIES.

WATER SUPPLY OUTLOOK FOR COLORADO AND NEW MEXICO
as of

April 1, 1964



FOR THE FIRST TIME THIS YEAR THE SNOW REPORT IS SOMEWHAT OPTIMISTIC. SNOW FALL OVER THE STATE WAS ABOVE AVERAGE DURING MARCH. FORECASTS WERE RAISED 10 TO 15% IN MOST AREAS. THE SOUTH PLATTE IS IN MUCH BETTER SHAPE THAN A MONTH AGO. THE RIO GRANDE AND ARKANSAS DRAINAGES WILL STILL HAVE SHORTAGES, BUT THEY ARE NOT FACED WITH A DROUGHT AS WAS THE EARLY PROSPECT. MOUNTAIN SOILS ARE STILL DRY. VALLEY SOILS ARE STILL IN POOR CONDITION IN MOST AREAS. CARRY-OVER STORAGE IN ALL AREAS EXCEPT THE SOUTH PLATTE IS POOR. THE SOUTH PLATTE HAS EXCELLENT CARRYOVER STORAGE. AT THE WRITING OF THIS REPORT SNOW IS FALLING OVER THE ENTIRE NORTHEASTERN PART OF THE STATE. SOME AREAS ARE REPORTING AS MUCH AS 2" OF WATER IN THE CURRENT STORM.



SHORTAGES ARE STILL EXPECTED OVER MOST OF NEW MEXICO, ESPECIALLY ALONG THE MAIN STEM OF THE RIO GRANDE. SMALL TRIBUTARY STREAMS ORIGINATING IN THE SANGRE DE CRISTO MOUNTAINS SHOULD HAVE FAIRLY GOOD EARLY WATER, BUT WILL RECEDE RAPIDLY. THE PECOS AND CANADIAN DRAINAGES CAN EXPECT NEAR NORMAL WATER SUPPLIES. CARRYOVER STORAGE IN THE MAJOR RESERVOIRS ON THE RIO GRANDE IS MUCH BELOW NORMAL. SOILS IN THE MOUNTAINS AND VALLEY ARE GENERALLY DRY. WATER CONSERVATION WILL BE A MUST THIS SUMMER.

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WATERSHED II -

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Describes water supply conditions in Lake County, Upper Arkansas, Fremont, Custer County Divide, Fountain Valley, Black Squirrel, Horse-Rush Creek, Central Colorado, Turkey Creek, Pueblo, Bessemer, Olney Boone, Cheyenne, Upper Huerfano, Stonewall, Spanish Peaks, Purgatoire, Branson Trinchera, Western Baca County, Southeastern Baca County, Two Buttes, Bent, Timpas, Northeast Prowers, Prowers, West Otero, East Otero, and Big Sandy Soil Conservation Districts.

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Describes water supply conditions in Rio Grande, Center, Mosca Hooper, Mt. Blanca, Sanches, and Culebra Soil Conservation Districts

WATERSHED IV -

RIO GRANDE WATERSHED (NEW MEXICO)

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Describes water supply conditions in Yampa, Moffat, West Routt, East Routt, North Park, Upper White River, Lower White River, and Douglas Creek Soil Conservation Districts.

WATERSHED IX -

LOWER SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Sedgwick, South Platte, Haxton Peetz, Padroni, Morgan Rock Creek and Yuma Soil Conservation Districts.



Hints for Conserving Your Irrigation Water

R. D. Anderson, Colorado Soil Conservationist
Charles H. Mitchell, Colorado State Conservation Engineer
Floyd E. Brown, Extension Irrigation Specialist

YOUR 1964 WATER SUPPLY

STREAMFLOW WATER SUPPLIES FOR IRRIGATION THIS YEAR WILL BE BELOW NORMAL IN MANY AREAS. IT IS IMPORTANT THAT YOU USE YOUR IRRIGATION WATER AS EFFICIENTLY AS POSSIBLE. BEFORE CROP PLANTING GETS UNDER WAY, FIND OUT FROM YOUR IRRIGATION COMPANY ABOUT HOW MUCH WATER YOU ARE LIKELY TO RECEIVE AND FOR HOW LONG OVER THE SEASON IT WILL BE AVAILABLE. KNOW HOW MUCH WATER IS DELIVERED TO YOUR FARM.

HERE ARE SOME SUGGESTIONS THAT WILL HELP:

IRRIGATION SYSTEMS

1. Keep ditches clean of weeds and trash; where possible provide ditch lining or pipe lines.
2. Replace leaky, worn-out structures such as gates and turnouts.
3. Use short lengths of run to prevent excessive use of water on upper end of fields.
4. Use large irrigation streams in each furrow or border so water will go over the land rapidly; reduce the rate of flow when run-off starts to prevent excessive waste.

CROPS

1. Give first priority to established perennial crops such as alfalfa, hay, pasture, orchards, etc.
2. Reduce acreages of high water requirement crops such as beets, potatoes, onions and corn.
3. Replace some acreages of high water requirement crops with those needing less water such as small grain or sorghum.

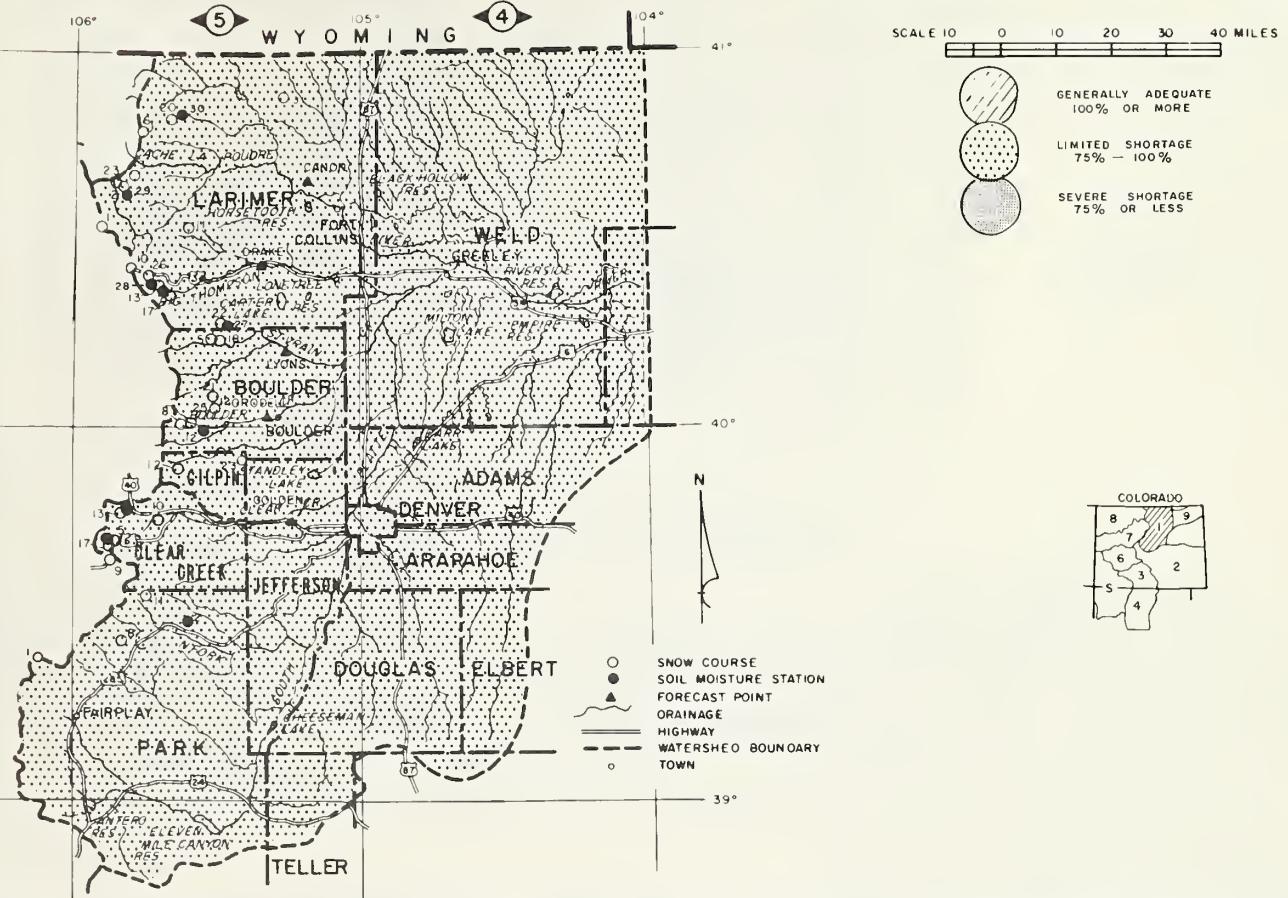
MANAGEMENT

1. If water supply is too short for the whole acreage, concentrate it on the best land.
2. Have someone with the irrigation water at all times both night and day.
3. Use shovel or soil auger to determine when to irrigate. Apply only the amounts needed to fill the root zone by checking with a shovel or auger as you irrigate.
4. Develop firm seed beds; sled out furrows; do not under-irrigate if you use sprinkler system.
5. Cultivate only as often as necessary to control weeds. Where possible, use chemicals to control weeds.

See your Soil Conservation Service Technician or
County Agent for specific help in your locality.

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of
April 1, 1964U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

GENERAL -- AT THE WRITING OF THIS REPORT, SNOW IS FALLING OVER MOST OF THE SOUTH PLATTE. THIS COULD WELL BE THE DIFFERENCE BETWEEN A CRITICALLY SHORT WATER YEAR AND A LIMITED SHORTAGE. MARCH SNOWFALL WAS ABOVE NORMAL, BRINGING UP FORECAST AS MUCH AS 15%. SINCE STORAGE IN SOUTH PLATTE IS RELATIVELY GOOD AND FORECASTS ARE GENERALLY IMPROVED NO CRITICAL SHORTAGES ARE EXPECTED. IF WATER CONSERVATION IS PRACTICED, THIS AREA SHOULD PRODUCE AN AVERAGE CROP THIS SUMMER.

SNOW -- THE SNOW PACK WAS IMPROVED OVER THE ENTIRE SOUTH PLATTE DURING MARCH. SOME SPOTTY AREAS STILL HAVE A MUCH BELOW NORMAL SNOW PACK, BUT MOST OF THE AREA NOW IS 80% OF AVERAGE.

RESERVOIR STORAGE -- CARRYOVER STORAGE IS GENERALLY POORER THAN LAST YEAR, BUT A VERY GOOD SUPPLEMENT. A NUMBER OF THE MAJOR RESERVOIRS CONTAIN MORE THAN AVERAGE CARRYOVER.

SOIL MOISTURE -- SOILS IN THE MOUNTAIN AREAS ARE DRIER THAN NORMAL. SOME SNOW WATER WILL BE USED TO FILL THIS VOID. REPORTS OF VALLEY SOIL RECEIVED PRIOR TO THE CURRENT STORM INDICATED POOR MOISTURE CONDITIONS, HOWEVER, LATE REPORTS SHOW PRECIPITATION OF $\frac{1}{2}$ " TO 2" OVER THE ENTIRE EASTERN PLAINS AREA. THIS SHOULD LEAVE SOILS IN EXCELLENT CONDITION.

FORECASTS -- FORECASTS ARE UP 10 TO 15% FROM LAST MONTH.

TRIBUTARY STREAMS TO THE SOUTH PLATTE SHOULD FLOW IN THE

80% RANGE THIS YEAR.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado

R. G. Wilson, Area Conservationist,
Littleton, Colorado

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES) LAST YEAR	AVERAGE 1943 - 57
SOUTH PLATTE RIVER AND TRIBUTARIES						
Baltimore	5K23	3-31	22	6.6	5.4	—
Berthoud Falls	5K13	3-31	44	12.8	10.8	14.6*
Big South	5J3	3-28	13	1.9	2.4	2.7
Boulder Falls	5J25	3-30	36	10.1	13.6	15.4*
Cameron Pass	5J1	3-27	82	25.4	20.1	24.9
Chambers Lake	5J2	3-28	32	7.0	7.9	8.8
Copeland Lake	5J18	3-30	11	3.3	3.2	5.3*
Deadman Hill	5J6	3-28	58	14.8	13.1	16.8
Deer Ridge	5J17	3-31	16	4.0	4.5	5.9*
Empire	5K10	3-31	27	7.5	5.9	7.8*
Geneva Park	5K11	3-29	18	3.8	2.2	4.2*
Grizzly Peak (B)	5K9	3-31	51	14.5	16.4	18.9
Hidden Valley	5J13	3-29	35	10.0	10.0	12.4
Hoosier Pass	6K1	3-31	36	9.3	9.1	13.1
Hour Glass Lake	5J11	3-27	22	4.7	6.3	9.2
Jefferson Creek	5K8	3-30	31	5.4	7.0	9.8
Lake Irene (B)	5J10	3-27	57	15.4	17.5	22.9
Long's Peak	5J22	3-28	32	7.5	10.1	11.7*
Lost Lake	5J23	3-28	40	9.0	10.5	11.8*
Loveland Pass	5J5	3-21	43	12.7	12.0	15.8
Loveland Lift No. 1	5K24	3-31	68	20.3	18.9	—
Pine Creek	5J31	3-27	7	1.2	0.9	—
Red Feather	5J20	3-27	30	6.7	6.1	8.8
Two Mile	5J26	3-29	43	9.1	13.2	15.3*
University Camp	5J8	3-30	48	13.0	16.1	24.5
Ward	5J21	3-30	20	3.5	7.3	7.1*
Wild Basin	5J5	3-30	32	7.8	9.6	15.0

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57
Antero	15.6	0	15.7	14.4
Barr Lake	32.2	20.6	23.4	21.3
Black Hollow	8.0	4.2	4.1	3.4
Boyd Lake	60.0	36.5	40.6	17.5
Cache La Poudre	9.5	9.4	8.7	6.6
Carter Lake *	108.9	90.9	94.4	64.8*
Chambers Lake	8.8	3.9	1.7	2.1
Cheeseman	79.0	18.5	44.6	49.2
Cobb Lake	34.3	9.4	18.9	5.6
Eleven Mile	97.8	60.7	97.3	69.2
Fossil Creek	11.6	9.9	10.0	7.1
Gross	45.2	20.1	25.2	—
Halligan	6.4	3.4	5.1	2.0
Horsetooth *	143.5	99.2	111.6	99.4*
Lake Loveland	13.2	10.6	12.3	5.7
Lone Tree	3.3	7.9	7.9	6.5
Mariano	5.2	5.2	5.2	2.6
Marshall	10.3	1.7	0.9	2.2
Marston	17.2	12.1	14.1	14.7
Milton	24.4	12.8	16.0	10.8
Standley	18.5	9.1	9.0	10.9
Terry Lake	8.2	6.2	5.8	4.4
Union	12.7	2.5	—	6.9
Windsor	18.6	12.6	14.3	9.8

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alpine Camp	3-31	6.9	6.9	3.1	3.5
Beaver Dam	3-31	7.1	3.0	3.2	3.4
Clear Creek	3-31	9.5	4.3	4.4	5.3
Feather	3-30	10.1	3.6	4.1	4.1
Guard Station	3-31	6.9	2.8	2.9	3.5
Hoop Creek	3-30	4.9	2.1	2.8	2.4
Hoosier Pass	3-31	7.8	4.1	4.1	4.2
Kenocha Pass	3-30	4.4	1.7	2.3	1.9
Laramie Road	NS	12.4	NS	6.0	6.6
Two Mile	3-31	9.1	4.1	4.2	5.3

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Big Thompson at Drake (2)	88	83	106
Boulder at OrodeLL	45	82	55
Cache La Poudre at Canon(1)	145	77	189
Clear Creek at Golden (3)	121	88	137
Saint Vrain at Lyons	63	75	84

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

This Report Prepared by
 Jack N. Washichek and Don W. McAndrew
 Soil Conservation Service
 Colorado State University
 Fort Collins, Colorado

- Observed flow minus diversions from Michigan, Colorado and Laramie rivers, plus diversions for irrigation and municipal use above station.
- Observed flow plus by-pass to power plants.
- Observed flow minus diversions through Jones Tunnel.

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SOIL CONSERVATION SERVICE

Snow Survey
 Colorado State University
 Fort Collins, Colorado

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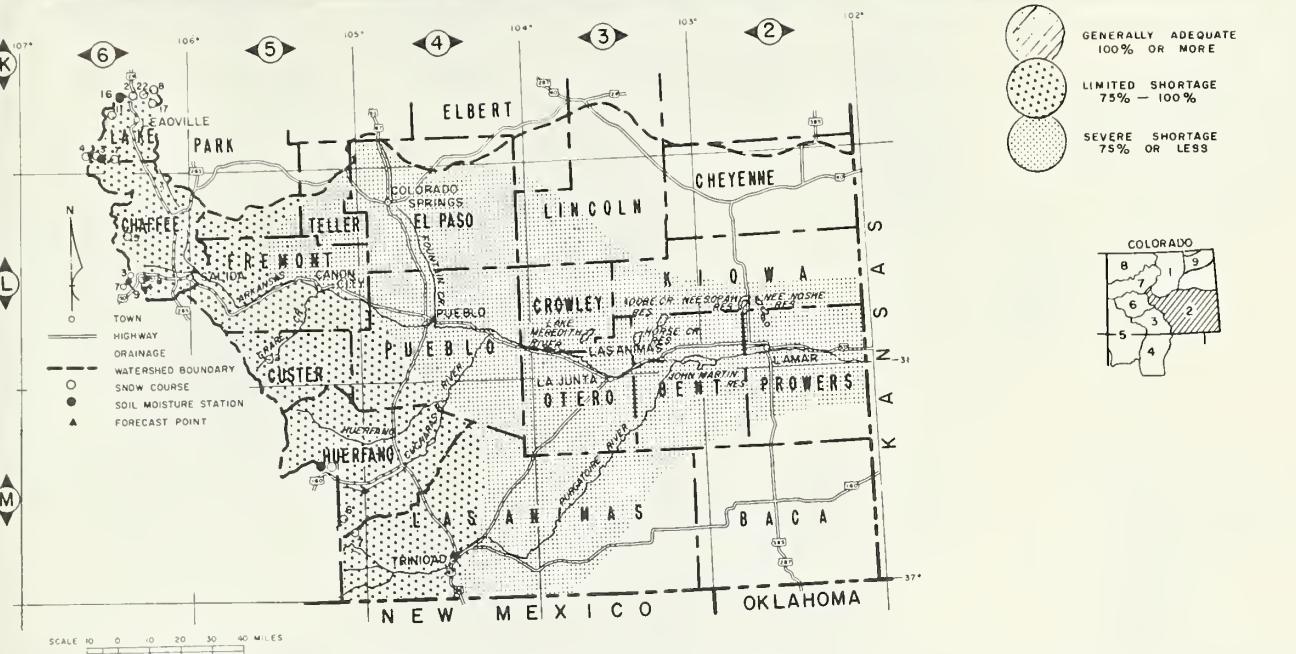
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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
ARKANSAS RIVER WATERSHED IN COLORADO

as of

April 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



GENERAL -- WATER SUPPLY PROSPECTS WERE IMPROVED OVER THE BASIN DURING MARCH. THE OUTLOOK IS STILL CRITICAL, BUT DROUGHT CONDITIONS ARE NOT EXPECTED. IRRIGATED AREAS ALONG THE PURGATOIRE AND CUCHARAS SHOULD HAVE NEARLY NORMAL WATER SUPPLIES. SOIL IN THIS AREA ARE RELATIVELY WET. THE ARKANSAS VALLEY STILL NEEDS CONSIDERABLY MORE SNOW TO INSURE ADEQUATE WATER. EARLY WATER SHOULD BE GOOD, BUT IT WILL BE OF FAIRLY SHORT DURATION. WATER CONSERVATION SHOULD BE THE KEY WORDS THIS SUMMER. THE WET MOUNTAIN VALLEY AROUND WESTCLIFFE WILL HAVE MORE THAN ADEQUATE WATER. SNOW FALL HAS BEEN PARTICULARLY HEAVY IN THIS AREA.

SNOW -- SNOWFALL WAS ABOVE NORMAL DURING MARCH. FOR THE FIRST TIME THIS YEAR THE PROSPECTS FOR WATER ARE BETTER THAN LAST YEAR. ALL SNOW COURSES ARE INDICATING MORE SNOW THAN LAST YEAR AT THIS TIME. ESPECIALLY HEAVY SNOW WAS RECORDED IN THE WET MOUNTAIN AROUND WESTCLIFFE. HERE SNOWPACK IS 125% OF NORMAL.

RESERVOIR STORAGE -- CARRYOVER STORAGE IN THE ARKANSAS VALLEY IS PRACTICALLY NONE EXISTANT. ONLY SMALL AMOUNTS OF WATER ARE STORED IN 5 OF THE 9 MAJOR RESERVOIRS. THESE RESERVOIRS WILL RETARD RUNOFF AND LENGTHEN THE WATER RUNS FOR WATER USERS SERVED BY THEM. THEY ARE NOT EXPECTED TO BE ABLE TO STORE ANY FOR NEXT YEAR.

SOIL MOISTURE -- SOILS IN THE MOUNTAINS ARE DRY AND WILL USE SOME OF THE SNOW WATER. VALLEY SOILS ARE STILL DRY IN MOST AREAS.

FORECASTS -- FORECASTS HAVE BEEN RAISED AS MUCH AS 20% DUE TO MARCH SNOW FALL. FORECASTS ON THE MAIN STEM ARE ABOUT 73% OF THE 15 YEAR NORMAL, WHILE FORECASTS OF THE TRIBUTARY STREAMS TO THE SOUTH ARE MUCH HIGHER. THE PURGATOIRE AND CUCHARAS COULD FLOW NEAR NORMAL IF THE SNOWFALL CONTINUES.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado

Dearl B. Beach, Area Conservationist,
Colorado Springs, Colorado
Will D. McCorkle, Area Conservationist.

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	LAST YEAR
ARKANSAS RIVER						
Blue Lakes	5M6	3-30	18	6.0	0.0	--
Bigelow Divide	5L3	3-26	39	9.9	5.1	--
Bourbon	5M5	3-26	32	7.7	3.6	--
Cooper Hill	6K23	3-29	40	7.2	6.7	--
Cucharas Pass	5M7	3-30	37	12.7	--	--
East Fork	6K17	3-29	32	8.8	8.5	9.9*
Four Mile Park	6K7	3-29	18	4.0	2.1	4.0
Fremont Pass	6K8	3-29	48	11.5	12.7	16.9
Garfield	6L8	3-31	43	13.0	11.5	--
LaVeta Pass (B)	5M1	3-30	33	10.6	5.6	8.1
Monarch Pass	6L4	3-31	57	16.6	13.9	18.6
St. Elmo (A)	6L5	3-29	46	10.0	9.3	12.5*
Tennessee Pass	6K2	3-29	35	8.2	8.4	10.0
Tomichi	6L7	3-30	55	13.4	12.2	--
Twin Lakes Tunnel	6K3	4-01	27	7.4	7.1	10.9
Westcliffe	5L2	3-26	47	8.3	1.8	6.0*

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943-57
Adobe Creek	61.6	0	0.0	22.0
Clear Creek	11.4	7.8	8.6	5.8
Cucharas	22.5	1.2	0.0	4.5
Great Plains	166.3	0	11.6	50.8
Horse Creek	25.3	0	1.6	7.3
John Martin	366.6	8.7	--	58.8
Meredith	31.7	0	9.5	14.5
Model	15.0	3.4	3.4	2.5
Sugar Loaf	17.4	4.2	6.6	8.1
Twin Lakes	47.2	17.1	23.1	22.7

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Garfield	3-30	6.7	2.4	2.3	3.1
King	3-30	3.3	1.1	1.5	1.6
La Veta Pass	3-25	11.9	4.3	6.2	10.0
Leadville	3-29	7.8	3.0	3.4	3.1
Twin Lakes Tunnel	3-30	4.5	0.7	1.4	2.5

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER			
STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	1943-57
Arkansas at Pueblo (1)	250	74	342
Arkansas at Salida (1)	245	72	339
Cucharas near LaVeta	13	93	14
Furgatoire at Trinidad	42	81	52

(1) Observed flow plus change in storage in Clear Creek, Twin Lakes, and Sugar Loaf Reservoirs minus diversions through Busk-Ivanhoe and Twin Lake Tunnels and Ewing, Fremont Pass, Wurtz and Columbine Ditches.

NOTE: * - 1943-57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

This Report Prepared by
 Jack N. Washichek and Don W. McAndrew
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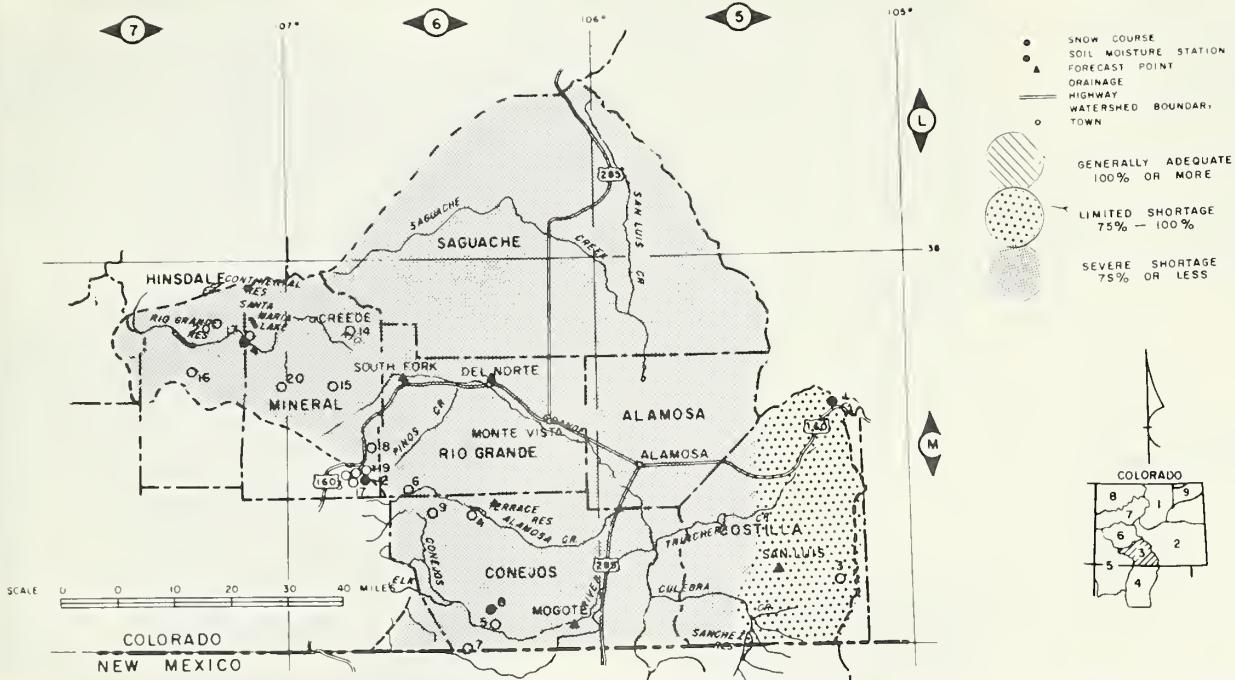
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UPPER RIO GRANDE WATERSHED IN COLORADO

as of
April 1, 1964U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

GENERAL -- MARCH SNOW FALL WAS ABOVE NORMAL - GIVING THE SAN LUIS VALLEY WATER USERS A LITTLE HOPE. WATER SUPPLIES WILL STILL BE CRITICALLY SHORT, BUT AT LEAST DROUGHT CONDITIONS ARE NOT EXPECTED. EARLY WATER SUPPLIES SHOULD BE FAVORABLE, BUT HIGH RIVER FLOWS WILL DROP OFF RAPIDLY. LATE SEASON WATER WILL BE CRITICALLY SHORT UNLESS MUCH ABOVE NORMAL RAINFALL KEEP THE RIVERS ALIVE. STREAMS ORIGINATING IN THE SANGRE DE CRISTO'S SHOULD HAVE GOOD EARLY FLOWS, BUT WILL SUBSIDE RAPIDLY. LATE SEASON SUPPLIES WILL BE LIMITED. RIGID WATER CONSERVATION PRACTICES WILL HELP ALL CONCERNED.

SNOW -- SNOWFALL DURING MARCH WAS ABOVE NORMAL. SOME OF THE AREA NOW HAVE NORMAL OR ABOVE SNOW COVER WHILE OTHERS HAVE ONLY 50 TO 60% COVER.

RESERVOIR STORAGE -- NONE OF THE RESERVOIRS IN THE VALLEY CONTAIN MUCH WATER, NOR ARE THEY EXPECTED TO FILL. WATER USERS UNDER ANY OF THE RESERVOIR SYSTEMS WILL HAVE SLIGHTLY LONGER WATER RUNS THAN THE DIRECT FLOW RIGHTS. BECAUSE OF REDUCED FLOWS LITTLE CARRYOVER STORAGE CAN BE EXPECTED.

SOIL MOISTURE -- MOUNTAIN SOILS ARE DRIER THAN LAST YEAR AND MUCH DRIER THAN AVERAGE. A CONSIDERABLE AMOUNT OF SNOW WATER WILL BE NEEDED TO REPLACE THIS WATER. VALLEY SOILS ARE REPORTED AS POOR. IF THE SOILS HAVE TO BE IRRIGATED PRIOR TO PLANTING OR IRRIGATED UP, WATER SUPPLIES WILL BE VERY SHORT.

FORECASTS -- FORECASTS ARE UP AS MUCH AS 14% OVER THE BASIN. RUNOFF IN THE 70-75% RANGE IS NOW EXPECTED. THIS RAISES HOPES THAT SNOWFALL WILL CONTINUE FOR ANOTHER MONTH. IT IS PRACTICALLY IMPOSSIBLE TO HAVE NORMAL WATER AT THIS LATE DATE, FROM THE SNOWPACK, BUT RAIN COMING AT THE RIGHT TIME WOULD BE OF UNTOLD VALUE.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado

Benny Martin, Area Conservationist,
Monte Vista, Colorado

SNOW

SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	CURRENT INFORMATION		PAST RECORD	
					LAST YEAR	AVERAGE 1943-57	WATER CONTENT (INCHES)	LAST YEAR
RIO GRANDE IN COLORADO								
Cochetopa Pass	6L6	3-25	26	5.4	5.2	5.4*		
Hiway	6M19	3-27	67	16.0	16.0	--		
Lake Humphreys	6M15	3-26	30	6.6	3.4	6.3*		
Pass Creek	6M18	3-27	46	10.8	3.6	--		
Pool Table	5M14	3-26	23	4.2	3.8	6.2*		
Porcupine	7M20	3-25	38	6.9	8.5	12.7*		
Red Mountain Pass (B)	7M15	3-21	86	25.7	26.2	30.3*		
Santa Maria	7M17	3-27	18	3.7	0.8	4.7		
Upper Rio Grande	7M16	3-31	24	6.4	3.3	7.3		
Wolf Creek Pass	6M1	3-27	81	21.2	18.3	30.5		
Wolf Creek Summit (B)	6M17	3-27	78	18.9	20.0	29.5*		
ALAMOSA RIVER								
Silver Lakes	6M4	3-30	31	9.2	1.6	6.1		
Summitville	6M6	3-28	63	15.1	12.0	20.5		
CONEJOS RIVER								
Cumbres Pass	6M7	3-27	57	16.9	13.9	20.2		
Platoro	6M9	NS			11.8	18.7*		
River Springs	6M5	3-30	24	7.2	1.9	7.3		
SANGRE DE CRISTO RANGE (Colo.)								
Blue Lakes (B)	5M6	3-30	18	6.0	0.0	--		
Cucharas Pass (B)	5M7	3-30	37	12.7	--	--		
Culebra	5M3	3-30	28	7.4	6.6	9.9		
LaVeta Pass	5M1	3-30	33	10.6	5.6	8.1		

NOTE: * - 1943-57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

This Report Prepared by
 Jack N. Washichek and Don W. McAndrew
 Soil Conservation Service
 Colorado State University
 Fort Collins, Colorado

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943-57
Continental	26.7	1.4	4.5	7.8
Platoro	60.0	3.0	4.0	4.6
Rio Grande	51.1	5.1	11.2	12.6
Sanchez	103.2	5.4	7.0	9.9
Santa Maria	43.6	3.4	4.5	7.8
Terrace	17.7	1.2	3.7	3.0

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alberta Park	3-30	8.2	3.3	4.1	4.3
Bristol View	3-25	6.1	2.5	4.3	3.4
LaVeta Pass	3-25	11.9	4.3	6.2	10.0
Mogote	3-26	10.7	4.2	6.8	6.1

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)
APRIL THROUGH SEPTEMBER

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Alamosa above Terrace	50	70	71
Conejos near Mogote	145	74	197
Culebra at San Luis (2)	17	71	24
Rio Grande nr. D.Norte(1)	350	71	491
Rio Grande at 30Mi.Bdg(1)	100	74	112
South Fork at South Fork	77	64	121

(1) Observed flow plus change in storage in Santa Maria, Rio Grande and Continental Reservoir

(2) Observed flow plus changes in storage in Sanchez Reservoir

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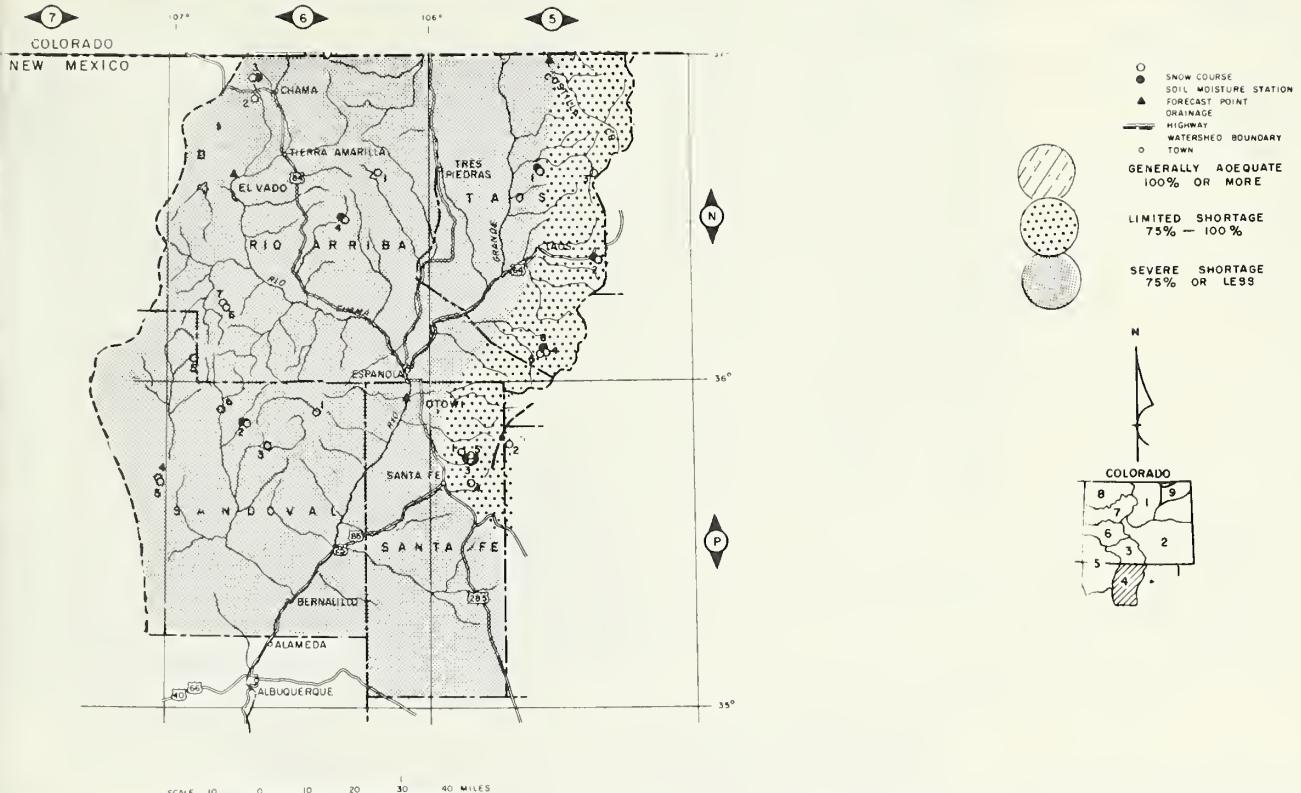
WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

WATERSHED IV

RIO GRANDE WATERSHED IN NEW MEXICO
as of

April 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



GENERAL -- AGAIN THIS YEAR WATER CONSERVATION WILL BE A NECESSITY FOR ANYONE DEPENDING ON DIRECT FLOW IN THE RIO GRANDE VALLEY IN NEW MEXICO. SOILS ARE DRY AND RESERVOIRS WILL BE OF LITTLE ASSISTANCE FOR THE IRRIGATED AREAS ALONG THE RIO GRANDE. THE PECOS AND CANADIAN DRAINAGES ENJOY A REASONABLY ADEQUATE WATER SUPPLY THIS SUMMER.

SNOW -- SNOW COVER IN THE MOUNTAINS VARIES MARKEDLY. THE HEAD WATERS AREA OF THE RIO GRANDE HAS A 50 TO 60% SNOW PACK WHILE SAME AREAS ALONG THE SANGRE DE CRISTOS HAVE AS MUCH AS 150% OF NORMAL. MOST OF THE DEEP SNOW AREAS DO NOT PRODUCE MUCH RUN-OFF HOWEVER.

RESERVOIR STORAGE -- STORAGE IN ELEPHANT BUTTE REMAINS EXTREMELY LOW. WATER HELD IN STORAGE THROUGHOUT THE BASIN IS MUCH BELOW NORMAL AND LESS THAN LAST YEAR AT THIS TIME. STORAGE ON THE CANADIAN DRAINAGE IS ALSO BELOW NORMAL FOR THIS DATE.

SOIL MOISTURE -- THE MOUNTAIN SOILS ARE DRY. SOME OF THE SNOW WATER WILL BE USED IN REPLACING THIS MOISTURE. VALLEY SOILS ARE ALSO REPORTED AS VERY DRY.

FORECASTS -- STREAMFLOW FORECASTS ARE UP 8 TO 15% THROUGHOUT THE BASIN. THE MAINSTEM IS EXPECTED TO FLOW 57% IN THE UPPER VALLEY TO 40% OF NORMAL IN THE LOWER RIO GRANDE VALLEY. TRIBUTARY STREAMS BETWEEN SANTA FE AND TAOS ARE EXPECTED TO FLOW IN THE 80% RANGE. THE RIO CHAMA IS FORECASTED TO FLOW 64% OF NORMAL. THE PECOS AND CANADIAN DRAINAGES ARE EXPECTED TO FLOW NEAR NORMAL THIS SEASON.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

Courtney A. Tidwell, State Conservationist,
New Mexico

R. M. Bell, Area Conservationist,
Santa Fe, New Mexico

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	PAST YEAR (1943-57)
RIO GRANDE						
Culebra (Colorado)	5ML3	3-30	28	7.4	6.6	9.9
Cumbres Pass	6M7	2-27	57	16.9	13.9	20.2
LaVeta Pass	5ML	3-30	33	10.6	5.6	8.1
Platoro	6M9	NS			11.8	18.7*
River Springs	6M5	3-30	24	7.2	1.9	7.3
Santa Maria	7ML7	3-27	18	3.7	0.8	4.7
Silver Lakes	6M4	3-30	31	9.2	1.6	6.1
Summitville	6M6	3-30	63	15.1	12.0	20.5
Upper Rio Grande	7ML6	3-31	24	6.4	3.3	7.3
Wolf Creek Pass	6M1	3-27	81	21.2	18.3	30.5
Aspen Grove (New Mexico)	5P1	3-25	11	5.3	7.1	2.7
Bateman	6M4	3-28	34	10.0	10.3	11.9*
Big Tesuque	5P3	3-24	20	6.4	6.0	4.5
Blue Bird Mesa	6P6	3-27	8	1.7	1.6	--
Capuline Peak	6N6	3-26	21	4.6	3.8	--
Chama Divide	6N2	3-30	0	0.0	0.0	1.7
Chamita	6N3	3-30	24	7.5	6.4	8.5
Cordova	5N5	3-26	43	11.5	9.7	11.1
Elk Cabin	5P4	3-31	11	3.6	2.0	2.4*
Fenton Hill	6P2	3-27	11	2.9	--	2.3*
Hematite Park	5N3	3-30	16	4.3	2.0	4.4
Pajarito Peak	6P4	3-27	3	0.4	0.0	--
Panchuela	5P2	3-30	4	1.3	1.3	1.4
Payrole	6N1	3-31	26	5.7	3.1	7.9
Philmont	5N6	NS			--	--
Quemazon	6P1	3-26	25	6.3	8.0	5.7
Red River	5N1	3-30	22	6.2	4.7	6.9
Rio En Medio	5P5	3-24	29	8.9	11.7	5.8
Sandoval	6P3	3-26	14	3.4	4.7	--
Taos Canyon	5N2	3-30	13	3.6	3.5	5.1
Tres Ritos	5N4	3-24	21	6.8	5.9	4.2

NOTE • 1943-57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

Rio Grande at San Marcial is Forecast at 24% of the Elephant Butte Irrigation District's Normal.

This Report Prepared by
Jack N. Washichek and Don W. McAndrew
Soil Conservation Service
Colorado State University
Fort Collins, Colorado

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE (1943-57)
Alamogordo	109.7	58.0	61.0	47.4
Caballo	344.0	23.2	41.7	155.7
Elephant Butte	2195.0	157.4	393.6	581.2
El Vado	192.1	2.9	4.9	34.9
McMillan-Avalon	44.5	18.0	31.5	13.7
Red Bluff (Tex)	307.0	32.3	29.3	81.1
Conchas	600.0	99.9	200.5	262.5

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alberta Park	3-30	8.2	3.3	--	4.3
Aqua Piedra	Est.	7.2	2.0	5.1	4.7
Bateman	3-31	6.7	0.7	3.4	2.7
Big Tesuque	3-24	3.7	1.7	2.3	2.4
Bristol View	3-25	6.1	2.5	5.5	3.4
Chamita	3-30	8.0	2.7	5.4	5.4
Fenton Hill	3-27	6.5	3.8	--	--
Mogote (Colo)	3-26	10.7	4.2	10.6	6.1
Red Summit	Est.	4.8	2.0	2.1	2.1
Rio En Medio	3-24	3.5	1.1	1.1	1.5
Taos Canyon	Est.	3.3	1.7	3.2	2.9

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR	AVERAGE	1943-57
Costilla at Costilla	20	74	27	
Pecos at Pecos	47	98	48	
Rio Chama nr La Puenta	135	64	210	
Rio Grande at Otowi (10)*	360	57	633	
Rio Grande at San Marcial (10)*	160	38	434	
Rio Hondo nr. Valdez	16	88	18	
Red River at Questa **	20	83	24	

(10) Observed flow plus changes in storage in Santa Maria, Rio Grande, Continental, Terrace, Sanchez, Platoro and El Vado Reservoirs.

* Rio Grande at Otowi and Rio Grande at San Marcial Forecast and Average Mar-July inclusive.

** Red River at Questa Forecast and Average April-July inclusive.

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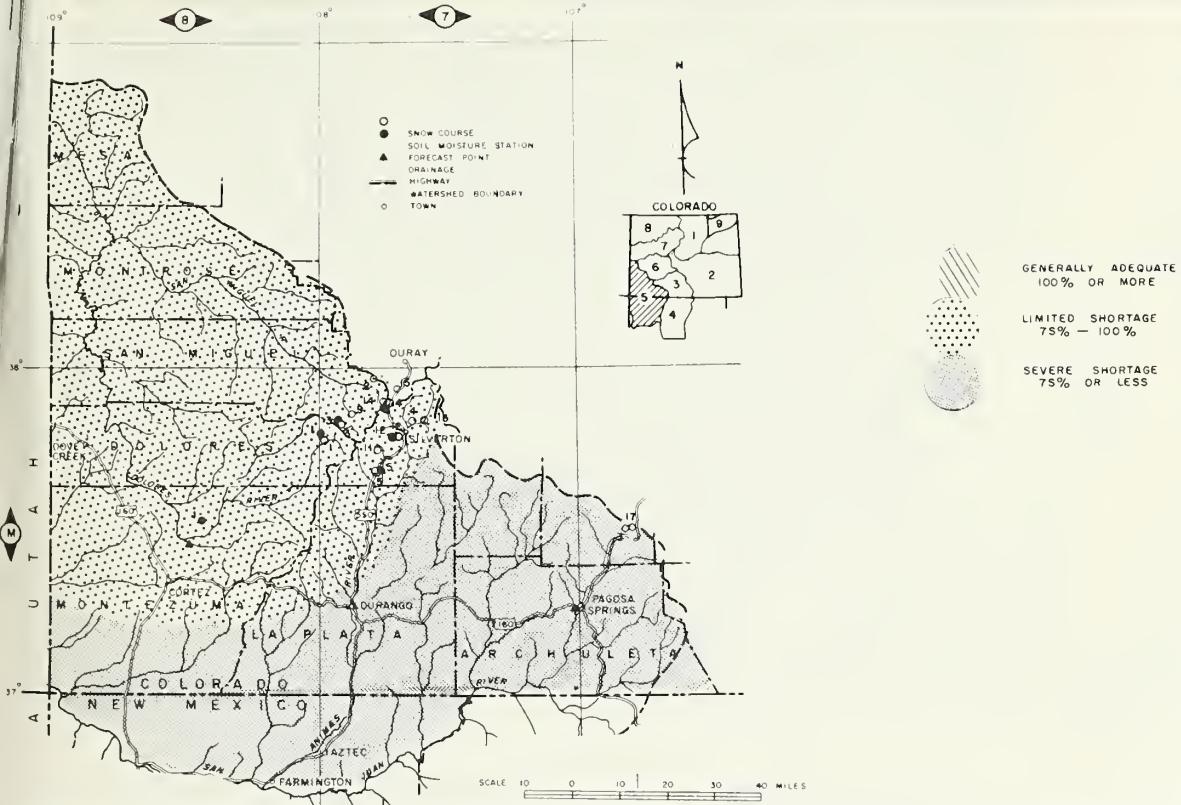
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as of
April 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



GENERAL -- THE GENERAL WATER SUPPLY PICTURE IN THIS AREA IMPROVED DURING THE PAST MONTH. MANY OF THE STREAMFLOW FORECASTS RAISED 10 TO 15% SINCE MARCH 1. WATER SUPPLIES WILL STILL BE SHORT BUT THE ONLY EXTREMELY SHORT SUPPLIES WILL BE EXPERIENCED ON THE SAN JUAN AND PIEDRA RIVER NEAR ARBOLES.

SNOW -- SNOW COVER IMPROVED MARKEDLY DURING THE LAST MONTH. THE SAN JUAN AND PIEDRA DRAINAGES HAVE THE POOREST SNOW PACK IN THE AREA, CURRENTLY 67% OF NORMAL. THE ANIMAS AND DOLORES DRAINAGES HAVE IMPROVED FROM 55% LAST MONTH TO 85% OF NORMAL ON APRIL 1.

RESERVOIR STORAGE -- STORAGE IN THE MAJOR RESERVOIRS REMAINS LESS THAN AVERAGE, BUT WILL BE OF ASSISTANCE TO USERS UNDER THEIR DITCHES.

SOIL MOISTURE -- THE MOUNTAIN SOIL MOISTURE IS VERY DRY. THIS CONDITION WILL REQUIRE CONSIDERABLE AMOUNTS OF SNOW WATER TO FILL THESE SOILS BEFORE PEAK RUNOFFS ARE OBTAINED.

FORECASTS -- THE DOLORES, ANIMAS, LAPIATA DRAINAGES ARE FORECASTED TO FLOW ABOUT 75% OF NORMAL THIS SUMMER. THE SAN JUAN AND PIEDRA AREAS ARE FORECASTED ABOUT 56% FOR THE COMING SUMMER. LATE SEASON DIRECT FLOW RIGHTS WILL BE SHORT IN THIS AREA.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado
Benny Martin, Area Conservationist,
Monte Vista, Colorado
E. A. Nicholson, Area Conservationist,
Grand Junction, Colorado

C. A. Tidwell, State Conservationist
New Mexico
Glen E. Murray, Area Conservationist
Albuquerque, New Mexico

SNOW

SNOW COURSE	No.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	LAST YEAR
SAN JUAN RIVER						
Chama Divide (B) (New Mexico)	6N2	3-30	0	0.0	0.0	1.7
Chamita (B) (New Mexico)	6N3	3-30	24	7.5	6.4	8.5
Upper San Juan (Colorado)	6M3	3-27	90	22.3	23.3	33.9
Wolf Creek Pass (B)	6M1	3-27	81	21.2	18.3	30.5
Wolf Creek Summit	6M17	3-27	78	18.7	20.0	29.5*
ANIMAS RIVER						
Cascade	7M5	3-31	37	10.1	6.5	12.1
Howardville	7M13	3-31	35	9.5	9.9	11.4*
Ironton Park (B)	7M6	3-30	52	15.8	10.2	13.1
Mineral Creek	7M14	3-31	44	11.9	11.3	14.1*
Molas Lake	7M12	3-31	36	10.1	9.5	13.7*
Red Mountain Pass	6M19	3-31	86	25.7	26.2	30.3*
Silverton Sub-Station	7M4	3-31	23	6.2	3.4	5.1
Spud Mountain	7M11	3-31	59	16.0	18.2	24.3*
DOLORES RIVER						
Lizard Head	7M3	3-30	44	12.3	17.5	17.6
Rico	7M1	3-30	22	6.6	3.0	7.7
Telluride	7M2	3-27	38	8.3	5.0	6.8
Trout Lake	7M9	3-27	48	10.8	12.3	13.2*

NOTE: * - 1943-57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943-57
Groundhog	21.7	6.7	5.5	7.0
Vallecito	126.3	32.4	55.3	40.7

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Cascade	3-30	9.1	5.0	6.9	9.1
Dolores	3-31	19.6	—	—	5.2
Lizard Head	3-31	11.8	3.8	7.1	6.9
Mineral Creek	3-31	5.7	2.0	3.8	3.3
Molas Lake	3-31	9.4	2.4	0.5	3.5
Rico	3-31	13.8	1.7	5.8	6.9

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Animas at Durango	350	74	475
Dolores at Dolores	210	75	279
Florida near Hermosa	47	78	60
LaPlata at Hesperus	21	75	28
Los Pinos Near Bayfield*	149	68	220
Piedra Creek near Piedra	105	56	186
San Juan at Rosa, N. M.	330	56	587

* OBSERVED FLOW PLUS CHANGES IN STORAGE IN VALLECITO RESERVOIR

ALL PROFILES 4 FEET DEEP

This Report Prepared by
 Jack N. Washichek and Don W. McAndrew
 Soil Conservation Service
 Colorado State University
 Fort Collins, Colorado

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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

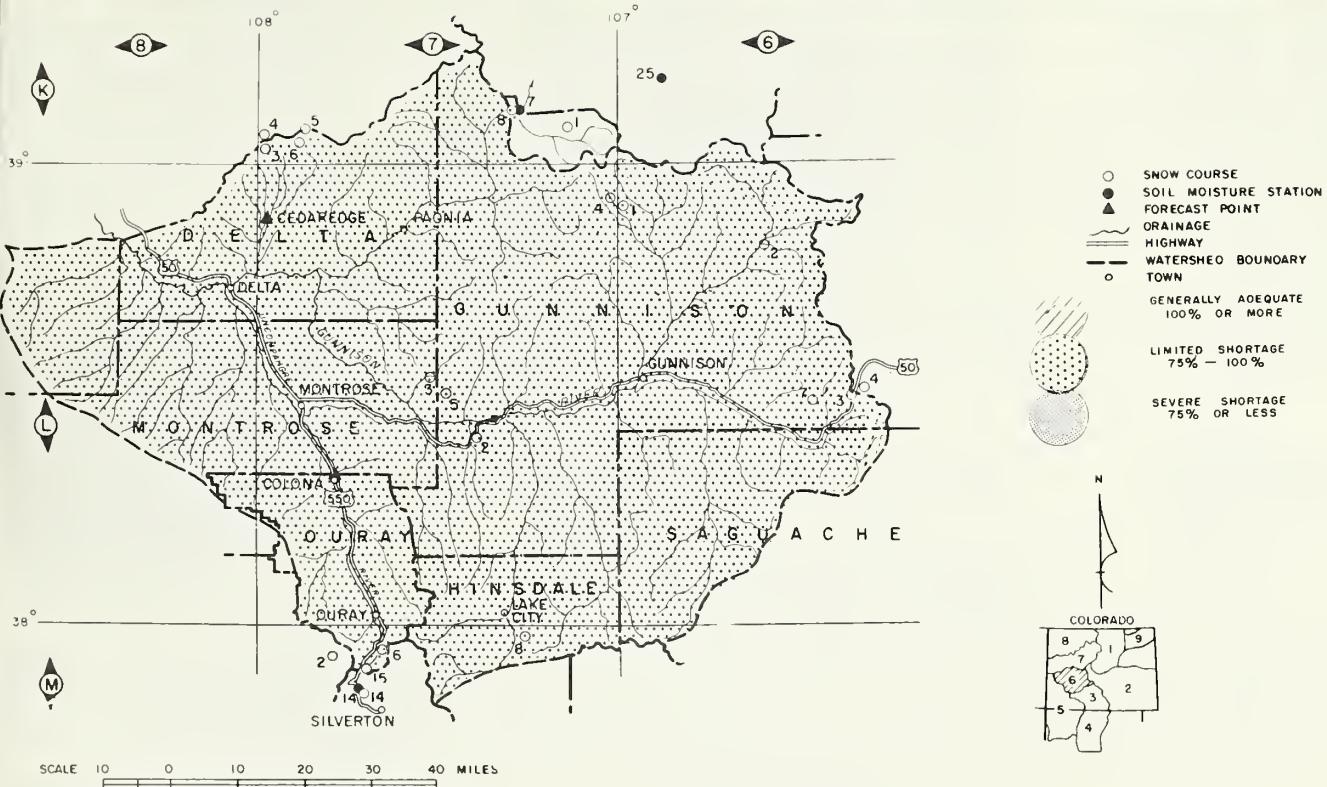
WATERSHED VI

GUNNISON RIVER WATERSHED IN COLORADO

as of

April 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



GENERAL -- MARCH STORMS INCREASED THE SNOW COVER MATERIALLY OVER THE GUNNISON BASIN. LATE SEASON WATER WILL BE SHORT ON THE GUNNISON AND SURFACE CREEK. WATER SUPPLIES ON THE UNCOMPAGHRE WILL PROBABLY BE ADEQUATE FOR THE SUMMER IRRIGATION SEASON.

SNOW -- THE SNOWPACK ON THE GUNNISON DRAINAGE CAME UP FROM 50% LAST MONTH TO 75% ON APRIL 1. SNOW COVER ON THE SURFACE CREEK DRAINAGE REMAINS SOMEWHAT BELOW AT 60% OF NORMAL. THE UNCOMPAGHRE RIVER DRAINAGE HAS ONE OF THE HIGHEST SNOW PACKS IN THE STATE AT 90% OF NORMAL.

RESERVOIR STORAGE -- STORAGE IN TAYLOR PARK RESERVOIR IS ABOUT 70% OF NORMAL AND ABOUT ONE-HALF OF THE AMOUNT HELD IN STORAGE LAST YEAR AT THIS TIME.

SOIL MOISTURE -- HIGH ELEVATION SOIL MOISTURE STATIONS INDICATE THAT THE MOUNTAIN SOILS ARE VERY DRY. THE SOILS ARE DRIER THAN NORMAL FOR THIS TIME OF YEAR. MUCH OF THE SNOW PACK WATER WILL BE NEEDED TO REPLENISH THIS VOID CONDITION.

FORECASTS -- FORECASTS ARE 12% HIGHER THAN LAST MONTH ON THE GUNNISON AND SURFACE CREEK DRAINAGES. THE UNCOMPAGHRE IS QUITE A BIT BETTER, IT SHOULD FLOW NEAR THE 90% RANGE.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado

E. A. Nicholson, Area Conservationist,
Grand Junction, Colorado

SNOW

SNOW COURSE	No.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	LAST YEAR
GUNNISON RIVER						
Alexander Lake	7K3	3-31	55	14.7	13.6	22.8
Black Mesa	7L5	NS			14.8	--
Blue Mesa	7L2	3-30	35	8.5	5.5	--
Cochetopa Pass (B)	6L6	3-25	26	5.4	5.2	5.4*
Crested Butte	6L1	3-27	53	11.3	11.8	15.3
Keystone	7L3	3-26	61	13.8	15.7	--
Lake City	7M8	3-28	33	5.3	6.0	8.6*
Long Draw	7L4	NS			5.5	--
Mesa Lakes (B)	7K4	3-30	51	15.2	11.0	17.4
Monarch Pass (B)	6L4	3-31	57	16.6	13.9	18.6
McClure Pass	7K8	3-30	49	12.0	12.5	15.8*
Mineral Creek (B)	7M14	3-31	44	11.9	11.3	14.1*
North Lost Trail (B)	7K1	3-30	50	11.5	10.9	15.7
Park Cone	6L2	3-29	37	7.7	8.4	12.3
Park Reservoir	7K6	3-26	73	15.5	15.5	26.8
Porphyry Creek	6L3	3-26	64	18.6	15.0	17.1
Trickle Divide (B)	7K5	3-26	81	18.9	16.5	28.9
Tomichi	6L7	3-30	55	13.4	12.2	--
UNCOMPAGRE RIVER						
Ironton Park	7M6	3-30	52	15.8	10.2	13.1
Lizard Head	7M3	3-30	44	12.3	17.5	17.6
Red Mountain Pass (B)	7M15	3-31	86	25.7	26.2	30.3*
Telluride	7M2	3-28	38	8.3	5.0	6.8
Trout Lake	7M9	3-27	48	10.8	12.3	13.2*

NOTE: * - 1943-57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943-57
Taylor	106.2	44.6	81.5	62.2

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
King	3-30	3.3	1.1	1.5	1.6
Maroon	3-30	5.9	2.7	3.0	3.5
Mineral Creek	3-31	5.7	2.0	3.8	3.3
Placita	3-30	9.3	3.6	4.7	6.7

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Gunnison nr. Grand Jct.	1000	72	1386
Surface Cr. at Cedaredge	14	78	18
Uncompahgre at Colona	130	90	145

ALL PROFILES 4 FEET DEEP

* OBSERVED FLOW PLUS CHANGES IN STORAGE IN VALLECITO RESERVOIR

This Report Prepared by
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 Fort Collins, Colorado

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SOIL CONSERVATION SERVICE

Snow Survey
 Colorado State University
 Fort Collins, Colorado

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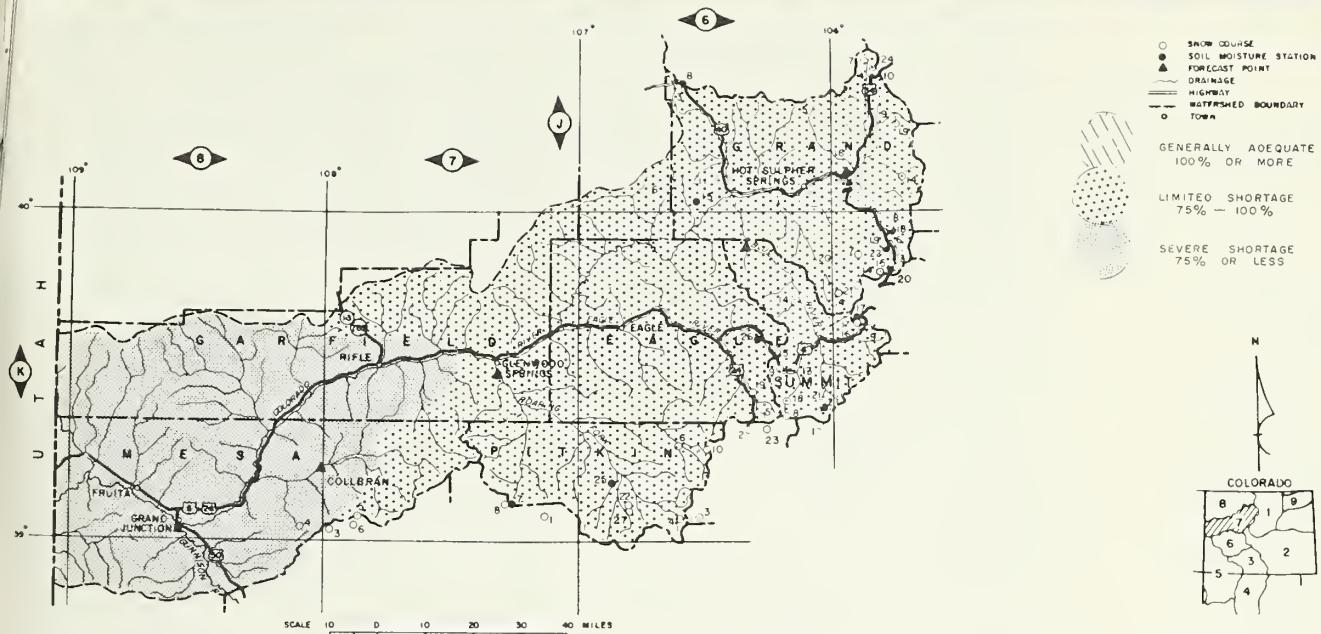
WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

COLORADO RIVER WATERSHED IN COLORADO

as of

April 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



SNOW

SNOW COURSE	NO.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	LAST YEAR
COLORADO RIVER (UPPER)						
Arrow	5K6	3-31	42	11.6	10.0	11.6
Berthoud Pass	5K3	3-31	57	13.5	11.3	15.0
Berthoud Summit	5K14	3-31	59	17.4	14.7	18.8*
Blue River	6K21	3-30	28	6.2	4.8	--
Cooper Hill	6K23	3-29	40	7.2	6.7	--
Fiddlers Gulch	6K5	3-28	52	12.2	12.2	17.2
Fremont Pass	6K8	3-29	48	11.5	12.7	16.9
Frisco	6K13	3-30	21	5.6	6.4	8.7*
Glen Mar Ranch	6K20	3-28	42	9.4	5.8	8.6*
Gore Pass	6J11	3-27	35	8.6	8.8	10.9*
Granby	5J16	3-27	27	6.1	6.7	7.6*
Grand Lake	5J19	3-29	32	7.8	4.9	8.9*
Grizzly Peak	5K9	3-21	51	14.5	16.4	18.9
Hoosier Pass (B)	6K1	3-21	36	9.3	9.1	13.1
Hones Pass	5K21	3-21	52	11.9	9.4	--
Lake Irene	5J10	3-27	57	15.4	17.5	22.9
Lapland	5K7	3-25	33	8.1	6.4	12.1
Lulu	5J7	3-27	55	14.2	14.8	17.6
Lynx Pass	6K6	3-27	49	11.3	9.2	12.7
McKenzie Gulch	6K28	3-23	25	5.8	2.4	--
Middle Fork Camp Ground	5K4	3-28	45	10.6	6.1	9.7
Milner Pass	5J24	3-27	42	10.3	10.5	12.9*
Monarch Lake	5J14	3-28	40	9.5	8.4	10.8*
North Inlet Grand Lake	5J9	3-28	33	6.8	5.8	10.3
Pando	6K19	3-29	37	10.8	5.6	11.3*
Phantom Valley	5J4	3027	34	8.5	7.2	10.8
Ranch Creek	5K18	3-31	34	8.3	7.3	--
Shrine Pass	6K9	3-30	54	15.4	13.5	18.3
Snake River	5K16	3-30	26	6.5	6.3	9.2*
Summit Ranch	6K14	3-28	27	5.7	4.6	9.3*
Tennessee Pass	6K2	3-29	35	8.2	8.4	10.0
Vail Pass	6K15	3-30	49	13.2	12.1	18.5*
Vasquez Creek	5K19	3-31	42	11.2	9.1	--
Willow Creek Pass	6J5	3-26	41	8.9	9.8	13.6
ROARING FORK RIVER						
Aspen	7J22	3-22	48	12.2	10.6	--
Independence Pass Tunnel	6K4	4-01	49	13.6	--	18.7
Ivanhoe	6K10	3-27	60	16.1	--	18.3*
Lift	7K27	3-22	57	16.8	10.6	--
McClure Pass	7K8	3-30	49	12.0	12.5	15.8*
Nast	6K6	3-30	24	4.7	2.9	6.1
North Lost Trail	7K1	3-30	50	11.5	10.9	15.7
PLATEAU CREEK						
Alexander (B)	7K3	3-31	55	14.7	13.6	22.8
Mesa Lakes	7K4	3-30	51	15.2	11.0	17.4
Park Reservoir (B)	7K6	3-26	73	15.5	15.1	26.8
Trickle Divide	7K5	3-26	81	18.9	16.5	28.9

NOTE: * - 1941 - 57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

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SOIL CONSERVATION SERVICE

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RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57
Granby	465.5	146.5	360.3	197.5
Green Mt.	146.9	55.6	10.3	57.7

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Berthoud Pass	3-37	3.9	2.8	2.1	2.4
Blue River	3-30	4.2	2.1	2.1	2.4
Gore	3-27	4.9	2.2	2.1	2.7
Maroon	3-30	5.9	2.7	3.0	3.5
Muddy Pass	3-30	11.1	5.8	5.3	6.5
Placita	3-30	9.3	3.6	4.7	6.7
Ranch Creek	3-31	8.7	4.5	4.9	5.3
Vail Pass	3-30	12.3	4.4	9.2	8.9
Vasquez	3-30	11.0	6.2	6.4	7.9

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1941-57
Blue River abv. Green Mt.	205	71	290
Colo. R. nr. Granby (4)	190	81	235
Colo. R. at Glenw. Spgs (5)	1200	78	1546
Plateau Cr. nr Collbran	35	61	57
Roar. Fk at Fl. Spgs (6)	605	75	803
Williams Fk nr. Parshall	60	78	78
Willow near Granby	29	66	44

(4) Observed flow plus diversions by Adams tunnel and Grand River ditch plus change in storage in Granby Reservoir.

(5) Observed flow plus the changes as indicated in (4) plus Moffat Ditch.

(6) Observed flow plus diversion through Twin Lakes tunnel

This Report Prepared by

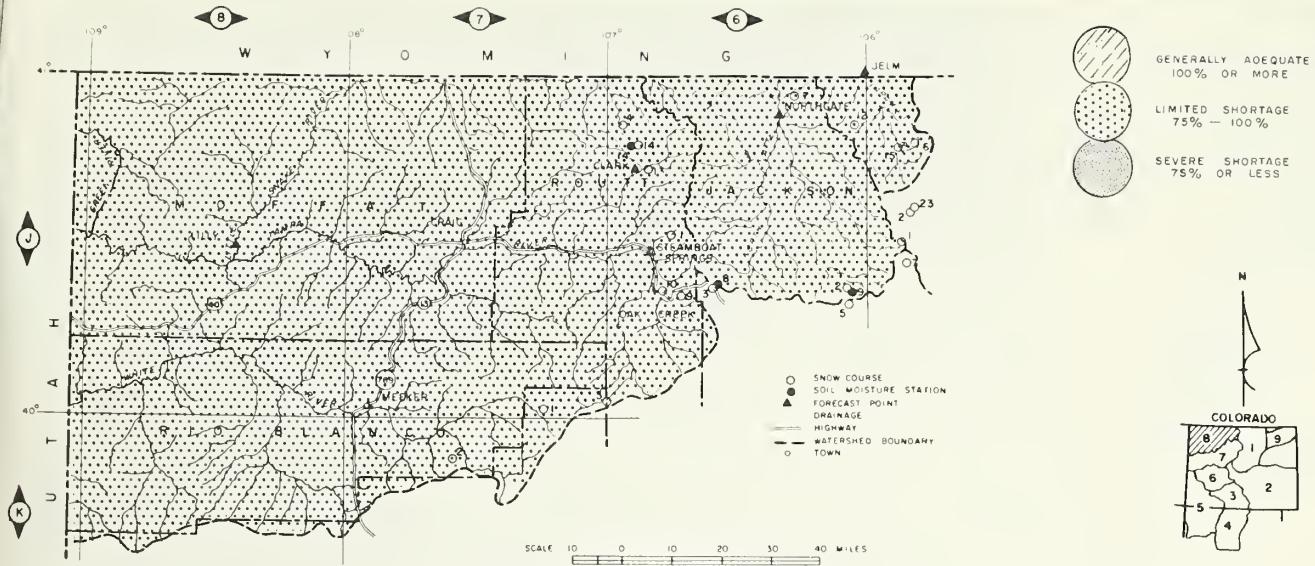
Jack N. Washichek and Don W. McAndrew
 Soil Conservation Service
 Colorado State University
 Fort Collins, Colorado

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WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE
YAMPA, WHITE, AND NORTH PLATTE RIVERS WATERSHEDS IN COLORADO WATERSHED VIII

as of
April 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



GENERAL -- NO MAJOR WATER SHORTAGES ARE EXPECTED IN THIS AREA. EARLY WATER SHOULD BE GOOD, LATE SEASON FLOWS WILL BE LOW, BUT SHOULD BE SUFFICIENT FOR THE LIMITED IRRIGATED LAND IN THIS AREA. SMALL TRIBUTARY STREAMS MAY HAVE SOME LOW FLOWS LATE IN THE SEASON.

SNOW -- SNOW PACK CONTINUED TO INCREASE DURING MARCH AT A NEAR NORMAL RATE. MOST OF THE HIGH ELEVATION SNOW IS ABOUT 80% OF NORMAL. ONLY ONE SPOT, CAMERON PASS, WAS ABOVE NORMAL. SNOW PACK IS RUNNING SLIGHTLY BETTER THAN LAST YEAR AT THIS TIME.

SOIL MOISTURE -- MOUNTAIN SOILS WILL NOT REQUIRE MUCH SNOW - WATER TO FILL. THIS WILL INCREASE THE RUNOFF SOMEWHAT. VALLEY SOILS ARE NOT IN QUITE AS GOOD A CONDITION. REPORTS INDICATE MUCH OF THE VALLEY SOILS IS DRY.

FORECASTS -- FORECASTS RANGE FROM 93% OF THE 1943-57 AVERAGE ON THE ELK TO 79% ON THE LITTLE SNAKE AT LILLY. MUCH OF THE RUNOFF OF THE LITTLE SNAKE COMES FROM WYOMING. HERE THE SNOW PACK IS ONLY ABOUT 80% OF NORMAL. FORECASTS ARE BASED ON NORMAL SUMMER PRECIPITATION, SO THE FLOWS QUOTED HERE COULD BE CHANGED BY THE SUMMER PRECIPITATION.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado

J. L. Hall, Area Conservationist,
Glenwood Springs, Colorado

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	LAST YEAR
NORTH PLATTE RIVER						
Cameron Pass	5J1	3-27	82	25.4	20.1	24.9
Columbine Lodge	6J3	3-28	73	20.9	22.1	24.7
Deadman Hill (B)	5J6	3-28	58	14.8	13.1	16.8
McIntyre (B)	5J15				7.1	11.4*
Northgate	6J7	3-30	25	5.5	4.4	6.2*
Park View	6J2	3-26	32	7.3	7.2	9.7
Roach (B)	6J12				11.8	20.0
Willow Creek Pass (B)	6J5	3-26	41	8.9	9.8	13.6
YAMPA RIVER						
Bear River	7J3	3-27	43	9.6	7.9	--
Clark	6J13	3-30	39	10.7	5.7	--
Columbine Lodge (B)	6J3	3-28	73	20.9	22.1	24.7
Dry Lake	6J1	3-28	67	18.9	15.1	21.0
Elk River	6J4	3-30	57	17.1	11.5	18.2
Hahn's Peak	6J14	3-30	47	14.1	8.9	--
Lynx Pass (B)	6J6	3-27	49	11.3	9.2	12.7
Rabbit Ears	6J9	3-27	90	24.9	19.1	28.5*
Yampa View	6J10	3-27	62	15.5	11.5	15.5*
WHITE RIVER						
Burro Mountain	7K2	3-31	49	11.3	9.4	18.6
Rio Blanco	7J1	3-28	46	15.5	10.7	16.7

NOTE: * - 1943-57 (ADJUSTED AVERAGES)
 NS - NO SURVEY
 (A) - AIR OBSERVED
 (B) - ON ADJACENT DRAINAGE

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Hahn's Peak	3-30	19.0	9.7	16.0	----
Laramie Road	NS	12.4	NS	6.0	6.6
Muddy Pass	3-30	11.1	5.8	5.3	6.5
Two Mile	3-31	9.1	4.1	4.2	5.3
Willow Pass	3-26	9.5	6.6	4.9	6.5

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER			
STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Elk at Clark	200	93	215
Laramie at Jelm	105	93	113
Little Snake at Lilly	275	79	350
White at Meeker	270	81	335
Yampa at Steamboat Sprgs.	250	88	283

This Report Prepared by
 Jack N. Washichek and Don W. McAndrew
 Soil Conservation Service
 Colorado State University
 Fort Collins, Colorado

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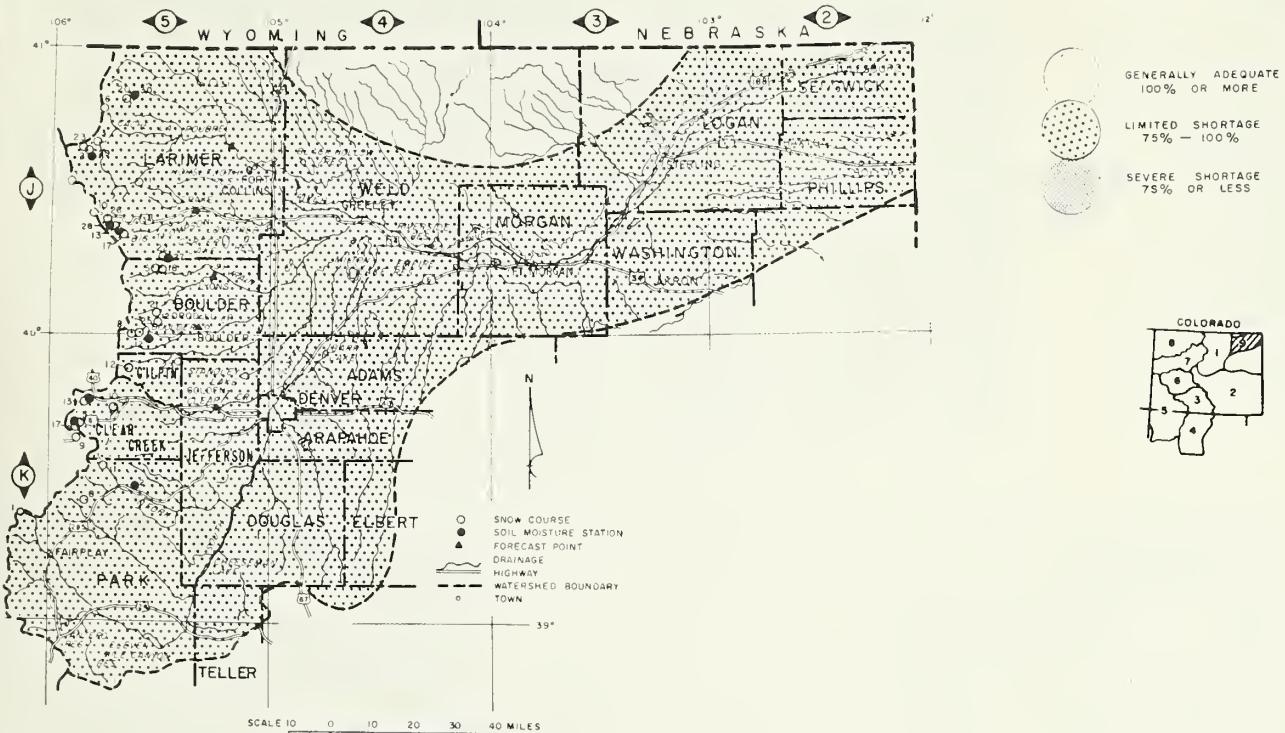
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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of

April 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

GENERAL -- AT THE WRITING OF THIS REPORT, SNOW IS FALLING OVER MOST OF THE SOUTH PLATTE. THIS COULD WELL BE THE DIFFERENCE BETWEEN A CRITICALLY SHORT WATER YEAR AND A LIMITED SHORTAGE. MARCH SNOWFALL WAS ABOVE NORMAL, BRINGING UP FORECAST AS MUCH AS 15%. SINCE STORAGE IN SOUTH PLATTE IS RELATIVELY GOOD AND FORECASTS ARE GENERALLY IMPROVED NO CRITICAL SHORTAGES ARE EXPECTED. IF WATER CONSERVATION IS PRACTICED, THIS AREA SHOULD PRODUCE AN AVERAGE CROP THIS SUMMER.

SNOW -- THE SNOW PACK WAS IMPROVED OVER THE ENTIRE SOUTH PLATTE DURING MARCH. SOME SPOTTY AREAS STILL HAVE A MUCH BELOW NORMAL SNOW PACK, BUT MOST OF THE AREA NOW IS 80% OF AVERAGE.

RESERVOIR STORAGE -- WATER HELD IN STORAGE IN THE LOWER SOUTH PLATTE AREA WILL BE AN EXCELLENT SUPPLEMENT TO THE STREAMFLOW THIS SUMMER. STORAGE IS CURRENTLY 94% OF NORMAL IN THE LOWER VALLEY AREA.

SOIL MOISTURE -- SOILS IN THE MOUNTAIN AREAS ARE DRIER THAN NORMAL, BUT NOT TOO BAD. SOME SNOW WATER WILL BE USED TO FILL THIS VOID. REPORTS OF VALLEY SOIL RECEIVED PRIOR TO THE CURRENT STORM INDICATED POOR MOISTURE CONDITIONS, HOWEVER, LATE INFORMATION SHOWS PRECIPITATION OF $\frac{1}{2}$ " TO 2" OVER THE ENTIRE EASTERN PLAINS AREA. THIS SHOULD LEAVE SOILS IN EXCELLENT CONDITION.

FORECASTS -- FORECASTS ARE UP 10 TO 15% FROM LAST MONTH.

TRIBUTARY STREAMS TO THE SOUTH PLATTE SHOULD FLOW IN THE

80% RANGE THIS YEAR.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado

Wallace L. Bruce, Area Conservationist
Sterling, Colorado

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	LAST YEAR
SOUTH PLATTE RIVER AND TRIBUTARIES						
Baltimore	5K23	3-31	22	6.6	5.4	--
Berthoud Falls	5K13	3-31	44	12.8	10.8	14.6*
Big South	5J3	3-28	13	1.9	2.4	2.7
Boulder Falls	5J25	3-30	36	10.1	13.6	15.4*
Cameron Pass	5J1	3-27	82	25.4	20.1	24.9
Chambers Lake	5J2	3-28	32	7.0	7.9	8.8
Copeland Lake	5J18	3-30	11	3.3	3.2	5.3*
Deadman Hill	5J6	3-28	58	14.8	13.1	16.8
Deer Ridge	5J17	3-31	16	4.0	4.5	5.9*
Empire	5K10	3-31	27	7.5	5.9	7.8*
Geneva Park	5K11	3-29	18	3.8	2.2	4.2*
Grizzly Peak (B)	5K9	3-31	51	14.5	16.4	18.9
Hidden Valley	5J13	3-29	35	10.0	10.0	12.4
Hoosier Pass	6K1	3-31	36	9.3	9.1	13.1
Hour Glass Lake	5J11	3-27	22	4.7	6.3	9.2
Jefferson Creek	5K8	3-30	31	5.4	7.0	9.8
Lake Irene (B)	5J10	3-27	57	15.4	17.5	22.9
Long's Peak	5J22	3-28	32	7.5	10.1	11.7*
Lost Lake	5J23	3-28	40	9.0	10.5	11.8*
Loveland Pass	5J5	3-21	43	12.7	12.0	15.8
Loveland Lift No. 1	5K24	3-31	68	20.3	18.9	--
Pine Creek	5J31	3-27	7	1.2	0.9	--
Red Feather	5J20	3-27	30	6.7	6.1	8.8
Two Mile	5J26	3-29	43	9.1	13.2	15.3*
University Camp	5J8	3-30	48	13.0	16.1	24.5
Ward	5J21	3-30	20	3.5	7.3	7.1*
Wild Basin	5J5	3-30	32	7.8	9.6	15.0

STREAMFLOW FORECAST

(1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Big Thompson at Drake(2)	88	83	106
Boulder at Orodell	45	82	55
Cache La Poud. at Canon(1)	145	77	189
Clear Creek at Golden(3)	121	88	137
Saint Vrain at Lyons	63	75	84

(1) Observed flow minus diversions from Michigan, Colorado and Laramie rivers, plus diversions for irrigation and municipal use above station.
 (2) Observed flow plus by-pass to power plants.
 (3) Observed flow minus diversions through Jones Tunnel.

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Snow Survey
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RESERVOIR STORAGE (1,000 AC. FT.)

MEASURED FIRST OF MONTH

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943-57
Carter*	108.9	90.9	94.4	64.8
Cheeseman	79.0	18.5	44.6	49.2
Eleven Mile	97.8	60.7	97.3	69.2
Empire	37.7	32.2	33.6	29.1
Horsetooth *	143.5	99.2	111.6	99.4
Jackson Lake	35.4	34.4	33.7	33.6
Julesburg	28.2	21.2	20.1	21.4
Point of Rocks	70.0	44.0	70.0	58.2
Prewitt	30.0	8.4	29.5	19.8
Riverside	57.5	59.1	59.6	47.9

*Shorter Period

Carter and Horsetooth Reservoirs are part of the Big Thompson Project.

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alpine Camp	3-31	6.9	6.9	3.1	3.5
Beaver Dam	3-31	7.1	3.0	3.2	3.4
Clear Creek	3-31	9.5	4.3	4.4	5.3
Feather	3-30	10.1	3.6	4.1	4.1
Guard Station	3-31	6.9	2.8	2.9	3.5
Hoop Creek	3-30	4.9	2.1	2.8	2.4
Hoosier Pass	3-31	7.8	4.1	4.1	4.2
Kenosha Pass	3-30	4.4	1.7	2.3	1.9
Laramie Road	NS	12.4	NS	6.0	6.6
Two Mile	3-31	9.1	4.1	4.2	5.3

ALL PROFILES 4 FEET DEEP

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LIST OF COOPERATORS

The following organizations cooperate in snow surveys for the Colorado, Platte, Arkansas and Rio Grande watersheds. Many other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

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New Mexico State Engineer
Nebraska State Engineer
Colorado Experiment Station
Rocky Mountain Forest and Range Experiment Station

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Arkansas Valley Ditch Association
Colorado River Water Conservation District

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San Luis Valley Irrigation District
Santa Maria Reservoir Company
Costilla Land Company
Uncompahgre Valley Water Users' Association
Twin Lakes Reservoir and Canal Company

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*"The Conservation of Water begins
with the Snow Survey"*